

In the Specification:

fer 5/18/06
Please replace the paragraph beginning on page ¹³~~11~~, line ¹~~8~~, with the following paragraph:

B1
--With reference [not] now to FIGURE 2, a more detailed illustration of the scan controller 130 interfacing between computer 110 and MRI unit 150 is illustrated. Scan controller 130 is in communication with computer 110 over data links 202 and 204 for respectively sending and receiving digital data thereover, although a single bi-directional data link could be substituted therefore. Timing of all interactions, including frequency and phase settings for the respective transmitter 190 and receiver coil 195, with MRI unit 150 is coordinated by synthesizers 230 integrated within scan controller 130. In a preferred embodiment, synthesizers 230 include two synthesizers which interface with two synthesizer DACs 231 and 232. The scan controller 130 interfaces with three gradient DACs 240, 242 and 244, each providing a gradient field in mutually orthogonal planes, as well as two RF shaper DACs 250 and 252. To control and operate an advanced MRI unit as in the preferred embodiment, at least seven DACs are needed to transfer digital input between the scan controller 130 and the MRI unit 150. However, the preferred embodiment is capable of numerous modifications and rearrangements which would require more or less than seven DACs. Gradient DACs 240, 242 and 244 are supplied with digital gradient information describing the x, y and z gradient fields over respective gradient DAC input lines 241, 243 and 245, as defined by the MRI pulse sequence received by scan controller 130 from computer 110. Gradient DACs 240, 242 and 244 then convert the digital gradient data to corresponding analog gradients which are transmitted to respective gradient coils 180 over gradient DAC output lines 246, 247 and 248. Thus, gradient DAC 240 is responsible for driving one gradient coil, e.g., gradient coil 180 X of the set of gradient coils 180. Likewise, each of gradient DACs 242 and 244 are responsible for driving a corresponding one of the remaining gradient coils 180, e.g., respective gradient coils 180 Y and 180 Z.

Please replace the paragraph beginning on page 14, line 4, with the following paragraph:

B2
--RF shaper DACs 250 and 252 are responsible for converting the RF shape data, received over output lines 251 and 253, from the digital domain as defined in the MRI pulse sequence received by the scan controller 130 from computer 110, and modulating the